

GROUNDING

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Use: Policy for grounding electric supply equipment.

 Previous Revision
 Originated
 Previous Number

 07-01-00
 03-94
 ER 500-A, 07-17-92

LATEST REVISION: Revise spec. 3.6 for clarification and alignment with IEC/NEC

REFERENCE: Indiana Electrical Code / National Electrical Code (IEC/NEC), Latest Revision.

SPECIFICATION:

1. GENERAL:

- 1.1 All wiring and entrance equipment for two wire 120 volt, three wire 120/240 volt, four wire 120/208 volt and four wire 277/480 volt shall be designed and installed in a manner suitable for operation with ground connections.
- 1.2 Wiring and entrance equipment for two wire 240 volt single phase and three wire 240 volt three phase shall be designed and installed for operation with conductors ungrounded, unless it is definitely known that one of the conductors is grounded. The box, cabinet and/or meter socket shall be grounded.
- 1.3 Service conductors for three wire 480 volt three phase service connections are not to be grounded. The box or cabinet shall be grounded.
- 1.4 The grounded conductor and equipment of the service entrance shall be effectively and permanently grounded in accordance with the latest edition of the IEC/NEC or in accordance with the requirements of applicable authorities having jurisdiction where any differences occur. Aluminum wire shall not be used as a ground wire where in direct contact with masonry or the earth or where subject to corrosive conditions. When terminating copper and aluminum conductors at the same point, an inhibitor shall be used.

2. ENTRANCE EQUIPMENT:

The grounding conductor shall be connected to the neutral conductor (or to the grounded phase conductor of a three wire delta service) at any accessible point from the load end of the service drop or service lateral, to and including the terminal or bus to which the grounded service conductor is connected at the service disconnecting means.

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3. BONDING:

- 3.1 The non-current-carrying metal parts of the entrance equipment shall be effectively bonded per the IEC/NEC. This equipment includes meter sockets, meter connection boxes and instrument transformer cabinets.
- 3.2 Metal water piping and other metal piping shall be bonded in accordance with the IEC/NEC. Gas piping within a building shall not be used as a grounding electrode but shall be bonded in accordance with the IEC/NEC on the customer's side of the gas meter.
- 3.3 The grounding conductor shall be connected to the grounding electrode system by suitable lugs, compression connectors, clamps or other approved means.
 Connections depending on solder shall not be used. Grounding clamps shall be suitable for the materials of the grounding electrode and the grounding electrode conductor.
- 3.4 When a cast bronze, brass or galvanized iron fitting is used, it should be designed so that the end of the conduit or armor enclosing the grounding conductor will be bonded to the fitting. Bolts, screws or terminals used for connecting the grounding conductor to the ground clamp shall be the correct size to fit the grounding conductor being used.
- 3.5 All ground connections and bonding shall be made by a UL listed ground clamp, solder less copper lug or fitting.
- 3.6 If company owned, pad mounted 480 volt delta transformers are installed 6' or less away from a metallic structure, it is recommended that the customer install equipment bonding between them. This can be accomplished through the installation of metallic service conduit between them, with both ends bonded, or if non-metallic conduit is installed, an additional equipment bonding jumper (identified by green insulation/markings, or bare wire) can be installed between the transformer and the metallic structure. The equipment bonding jumper shall be sized in accordance with the IEC/NEC.